

LONG TERM SURVIVAL AS A FUNCTION OF AIRWAY OBSTRUCTION (FEV₁) IN SUBJECTS WITH CHRONIC OBSTRUCTIVE PULMONARY DISEASE: A POPULATION BASED RECORD LINKAGE STUDY IN A LARGE UK POPULATION

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OBJECTIVE: COPD increases morbidity and decreases life expectancy. Airway obstruction as measured by the forced expiratory volume in one second (FEV₁) is used most commonly to measure the extent of airways obstruction but the marginal impact of FEV₁ in decreasing survival is unclear. **METHODS:** This was a retrospective record linkage study using data from a region of Wales, UK, with a population of around 425,000 people. Data were probability matched from a number of data sources: hospital utilisation data from local hospitals, lung function data from the Respiratory Medicine Department and mortality data from the Office of National Statistics. Individual data sources were available spanning a period of 14 years to the present. Survival was characterised from the first recorded FEV₁ measurement. Multivariate analysis techniques were used to standardise for potentially confounding factors such as age, sex, morbidity, BMI and smoking status. **RESULTS:** Among 33,357 subjects with data describing their FEV₁ status, we identified 2,326 patients with COPD. Mean and median (SD and IQR) FEV₁ values at first measurement were 1.04 litres and 0.89 litres (0.64 and 1.15–2.62), respectively. Mean survival at one year and at five years was 95.5% and 74.7%, respectively. In univariate analysis by FEV₁ quartile (1st quartile was the lowest FEV₁ value) survival at five years was 71.2%, 82.9%, 80.4% and 85.0%. After standardisation for age, sex, morbidity, smoking status and BMI using a Cox's model, the hazard ratios for the 1st, 2nd and 3rd quartile by comparison to the 4th were 2.3, 1.7 and 1.4, respectively. **CONCLUSION:** Airways obstruction (FEV₁) was an important determinant of survival in COPD following standardisation for other potentially confounding factors.

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risk of an asthma-related hospitalization (OR = 0.52; 95% CI = 0.30 to 0.90) and a 30 percent reduction in the risk of an asthma-related ED visit (OR = 0.697; p = 0.048). The protective effect of salmeterol did not exist for those with recent or past use of salmeterol. Conversely, use of seven or more canisters of salmeterol had a decreased risk in the outcomes of interest (hospitalization: OR = 0.45; p < 0.001; ED visit: OR = 0.49; p < 0.001). **CONCLUSIONS:** Salmeterol decreases the risk of health care utilization if salmeterol is currently used or salmeterol is used for seven or more canisters during a one-year period.

PODIUM SESSION II

COST-EFFECTIVE ANALYSIS

CEI

PHARMACOECONOMIC EVALUATION OF SINGLE DOSE AZITHROMYCIN EXTENDED RELEASE (AZ-ER) FOR THE TREATMENT OF COMMUNITY-ACQUIRED PNEUMONIA (CAP)

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OBJECTIVE: To estimate the total medical costs per patient and cost per patient cured for AZ-ER 2g single dose compared with levofloxacin 750mg for 5 days for the outpatient treatment of mild to moderate CAP from a managed care perspective. **METHODS:** A cost-effectiveness model was developed to calculate the total medical costs in the first 30 days following initial outpatient treatment of CAP. Costs included those of initial medical management and antibiotic therapy, treatment of adverse events and second-line treatment, including hospitalization. Resource use was based on the American Thoracic Society guidelines, and unit costs were assigned based on average Medicare RBRVS and DRG reimbursement for physician visits and hospitalizations and Wholesale Acquisition Costs for medications. Likelihood of cure and adverse events were obtained from clinical trial data comparing AZ-ER to levofloxacin. To investigate the effect of compliance on predicted healthcare costs, cure rates were adjusted by modeling the effects of non-compliance with therapy on retreatment rates. The base case prevalence of compliance (70%) was obtained from published sources. Sensitivity analyses were conducted to determine the impact of multiple variables on outcome measures. **RESULTS:** Average cost per patient was \$341 in the AZ-ER group and \$458 in the levofloxacin group. Average total cost per patient cured was \$375 in the AZ-ER group and \$561 in the levofloxacin group. The incremental cost-effectiveness ratio indicated dominance for AZ-ER, having both better outcomes and a lower total cost. Compliance with levofloxacin and cost of levofloxacin were factors having greatest impact on cost. However, AZ-ER remained the dominant therapy compared with levofloxacin at up to 94% predicted compliance with levofloxacin. **CONCLUSION:** Use of AZ-ER may result in lower medical costs per person than levofloxacin. As non-compliance with levofloxacin increases, the difference in predicted total costs per patient between AZ-ER and levofloxacin increases.

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THE COST-EFFECTIVENESS OF ZEMPLAR IN THE NETHERLANDS

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AN EVALUATION OF THE ASSOCIATION BETWEEN HEALTH CARE UTILIZATION AND USE OF SALMETEROL AMONG SUBJECTS WITH ASTHMA

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OBJECTIVE: Evaluate whether use of salmeterol increases the risk in an asthma-related hospitalization or emergency care. **METHODS:** Data for this study were extracted from the MEDSTAT pharmacy and medical claims databases between January 1, 2000 and December 31, 2001. A nested case-control study design was employed to evaluate the associations of interest. A cohort representing asthma patients was identified in 2000. The hospitalized cases were then identified as those with the first-time asthma-related hospitalization in 2001, and matched to select controls from the study cohort by age (± 5 years of age), sex, and number of ambulatory visits for asthma (5:1 control to case ratio). A similar selection process was used for the asthma-related emergency department (ED) visit outcome. The use of salmeterol was evaluated during the one-year period before an index date for both cases and controls. Conditional multiple logistic regressions were used to model the association of interest. **RESULTS:** A total of 35,312 subjects were eligible to be the study cohort. In addition, 284 and 640 subjects were identified as the hospitalized and ED cases, respectively. Current use of salmeterol was associated with a 48 percent decrease in the

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